City of Helena – Lewis & Clark County
***G**eographic **I**nformation **S**ervices*
316 N Park Avenue
Room 147
Helena, Montana 59623

406-447-8389 (phone)
406-447-8386 (fax)
www.co.lewis-clark.mt.us

February 14, 2007

Stewart Kirkpatrick
Montana Dept. of Administration/ITSD
Weinstein Building, Suite 2
101 N. Rodney
Helena, MT 59601

Re: FY 2008 Montana Land Information Act Grant Application

Dear Mr. Kirkpatrick,

Enclosed please find our completed application for the FY 2008 Montana Land Information Grant.

Our grant title is: "Design, Research, and Development of a Comprehensive Certificate of Survey GIS Feature Class". The grant request is for $90,000 with a match of $20,000 from Lewis & Clark County local MLIA funds.

We look forward to hearing from you and grant review subcommittee.

Sincerely,

Eric F. Spangenberg, GIS Coordinator
Lewis & Clark County / City of Helena

Enc: Completed Grant Application
CD with digital copy of Grant

Applicant Information

1. Primary Applicant (Required): Lewis & Clark County
Name of principle individual: Eric Spangenberg
Name of agency\entity: Lewis & Clark County
Street: 316 N. Park
City: Helena
County: Lewis & Clark County
State: Montana
Zip Code: 59623
Contact email address: espangenberg@co.lewis-clark.mt.us
Contact fax address: 406-447-8386
Contact phone: 406-447-8389
Organizational Unit (if applicable)
Department: Information Technology & Services
Division: Geographic Information System (GIS) Services

2. Other Project Participants or Partners - please list all:
Name of contact: Eric Spangenberg
Name of Agency: City of Helena GIS
Street: 316 N. Park
City: Helena
County: Lewis & Clark County
State: MT
Zip Code 59601
Contact email address: espangenberg@co.lewis-clark.mt.us
Contact phone: 406-447-8389

3. Date Submitted (Required): February 15, 2007
4. Date Received by State:

Project Information

5. Descriptive Title of Applicant's Project (Required):

Design, Research, and Development of a Comprehensive Certificate of Survey GIS Feature Class.

6. List the Goals and Strategies from the Land Information Plan that this grant application fulfills (Required):

Goal 1 – Comprehensive
Goal 1 – Strategy 1.2
Goal 2 – Comprehensive
Goal 3 – Comprehensive
See Project Narrative below for descriptive text supporting the fulfillment of the above stated Goals and Strategies.

Project Narrative begins on next page.

Project Narrative
Please limit to 5 pages

1. Project Purpose and Goals (Required) - *Please relate project goals specifically to the strategies of the 2008 Land Information Plan.*

The purpose of this project is to create a digital feature representing Certificate of Survey (COS) boundary areas, with a primary goal of representing the COS in a visual manner through a geographic information system (GIS). This goal will make the scanned COS documents available to our users through the GIS interface, and in the long-term, available via the Internet for other sectors, private as well as public.

In addition to the geographic coordinate database (GCDB), the COS boundaries serve as a cornerstone to the Cadastral Theme. The research and development of this GIS feature directly and indirectly supports many of the goals outlined in the Montana Land Information Plan.

1. Goal 1 – "…ensure that digital land information is collected consistently, …and made available in common ways for all potential user and users, both private and public."

   Certificate of Surveys are constantly researched, requested, and viewed by both private entities (title co., surveyors, realtors, etc…) and the public at large. Through the implementation of a standard methodology for feature development and database structure utilizing a GIS, we intend to make it easier for staff, other public entities, and private sector entities to access this important building block of cadastral and land information. A long-term goal of this project proposal is to develop a process for linking to the scanned document in our Clerk and Recorder's office. The GIS feature serving as the link to the originating data, making the information more readily available.

2. Goal 1 – Strategy 1.2 – "Advance the collection and maintenance of MSDI themes."

   Research and development of the COS feature would serve to further strengthen the Cadastral Theme through better representation of that theme's data. The COS feature development project would support many of the 2006-2008 goals and objectives outlined for the Cadastral Theme, this feature is one of many features that can be vertically integrated to cadastral. A pilot showing how the COS feature will be used to link to the scanned document could serve as an example for eventually making GLO documents available, a goal stated for the Cadastral Theme.

3. Goal 2 – "Improved and encourage partnerships and collaboration."

   A partnership already exists between Lewis & Clark County and the City of Helena. These local government entities share a unique partnership in building and maintaining their GIS. The research and development of this GIS feature will build upon the open dialog that already exists between Lewis & Clark County and the City of Helena. It is anticipated that this GIS feature will continue to make both of those government entities aware of GIS and it's usefulness. In particular the City Engineering, City and County

Community Development, and City and County Public Works staff have the potential to benefit from this.

The data model planning portion of this project encourages open dialog with the Cadastral Theme lead as well as members from the private sector. Collaboration with surveyors, planners, and other land information users will occur and benefit with the implementation of this project. Lessons learned could serve as a pilot for advancing a similar statewide data model effort.

This feature development, and the possible long-term benefits of this feature for all users will assuredly demonstrate the role of GIS in land information management.

4. Goal 3 – " Encourage and support the integration of GIS technology and geospatial data into business processes and public policy."

   Many public policy decisions are developed based on or derived from land information related data. The COS feature will aid in improving that data utilized by our policy makers. Improved land information data will serve to better educate our policy makers and aid them in making better decisions.

   As noted earlier public policy makers are not the only users of land information. Many in the private business world work with and rely upon land information. Most notably are the surveyors, realtors, and title companies. As proposed in this project the GIS will serve both as a functional visual tool for representing the COS data, but also as a port of entry to accessing the scanned document (COS). Promoting GIS not only to the government sector but the business/private sector as well.

2. Geography Affected (Required) - *Please describe the geographical area and jurisdictions that will be impacted by this project.*

The geographical area initially affected by this project includes Lewis & Clark County, and the incorporated cities of Helena and East Helena. We are hopeful that a pilot from this project may serve as an example for a statewide application.

3. Project Background (Required) - *Please summarize the problem to be solved and past or present approaches that require change.*

No reliable GIS feature currently exists that allows users to visualize the location and breakdown of how a piece of land was created. And while COS information is available through either paper maps (State Department of Revenue) or the legal description attribute field in the cadastral layer, it is only text annotation on paper or text attributes in a database.

The user has to physically go down to the Clerk & Recorder's office to either view or purchase a copy of the COS. For most private business entities this has become the cost of business, and an

inconvenience. There is no other option available to a surveyor or title company for researching a property.

This same inconvenience holds true for the public sector as well. Both City and County staff have the need to view surveys. Albeit those users have the inside track on access, and don't have to pay for copies, but tracking down paper copies (or microfiche) is an inconvenience at best.

Through the use of GIS, the COS can be visually represented to give the end user a better experience of the area encompassed by a survey, or multiple surveys. Additionally, the goal of offering access to the scanned document via linking from the GIS feature will put digital copies of the document in the hands of the user. Potentially removing all need to research documents in the Recorder's office and the inconvenience of the trip to the building.

In late 1999 the GIS department compiled a list of features used by staff. Five out of eight surveyed departments identified Certificate of Surveys as a feature they would use. A use listed at almost 50% of the time. The COS feature while not identified as one of the 'priority' features in the City/County Consolidated GIS Plan, was identified as a feature to eventually be built. Most of the 'priority' features have been completed and are in regular maintenance. This allows the GIS department to focus on other data needs, COS being one of those needs.

The MLIA grant funds requested would be used to fund the contract work of COS research and GIS feature development. The contractor-completed feature would then fall into our regular maintenance schedule. Thus keeping it timely and up to date.

4. Technical Approach (Required) - *Provide a written project plan along with hardware, software and staffing solutions if applicable.*

In order to determine how the data can be best represented for all users, this project proposal recommends a COS data modeling discussion. We propose a table discussion with shareholders (surveyors, local government staff, Cadastral Theme lead, others) to determine what would best serve users. Also identified would be what format (point, polygon, line), and what data attributes will be necessary to serve a statewide project?

With the results from the data modeling discussion mentioned above, the process outlined below can be adjusted to serve the needs of the COS feature development.

- Map only the COS boundary (outline), not the individual lots, based on the boundary as shown on the original plat.
- Create the boundary polygons **in the same order that the surveys were legally created, so that the oldest surveys are on the bottom (i.e. drawn first)**. This will create overlapping polygons, which will reflect the chronology of the land development.
- Some surveys redefine older existing ones, and should be mapped to show that. That is, if a new survey overlays an older one, that overlap shall be mapped. The original boundary should NOT be changed.
- Snap to **parcel lines** and **road centerline** vertices as appropriate. If necessary snap to the **GCDB**, section corners, ¼ section corners, or others **as called for in the survey**. Some

surveys may have **lakes** or **rivers** or the **railroad** as boundaries. In all cases the survey's legal description (calls) should be followed.
- Attributes for the feature will include information enabling the GIS feature to link (hyperlink, relationship?) to the Clerk & Recorder's scanned document database.

- At the time of writing we anticipate contracting this work out. In-house staff resources will be for administrative and data review purposes only.

5. Deliverables (Required) - *List the deliverables of the project and document which Land Information Plan strategy they relate to.*

Feature class deliverable will be ESRI™ based GIS features. Acceptable formats include either file geodatabase or personal geodatabase.

ESRI ™ based GIS features, while not the only GIS being used, are the most commonly used software in this state. Therefore any format produced from that software should be compatible statewide. Deliverables from this project would support Strategy 1.2, "Advance the collection and maintenance of MSDI themes" and Strategy 3.1, "Promote the benefits of geographic information systems and present business cases to government agencies, universities, private sector, and citizens."

6. Expected Benefits (Required) - *Describe the benefits that will accrue to both the applicant and other stakeholders.*

- Improved cartographic representation of land based information;
- Improved public relations with better maps and associated data for 'off the street' queries;
- Improved access to legal documents associated with COS's;
    - Reduced travel costs and research time in Recorder's office for title companies, surveyors, etc…
    - Reduced research time for public and staff
- Improved access to data means better customer service;
- Potential to serve as pilot study for Cadastral Theme future goals and objectives;

7. On-going commitment and maintenance (Required) - *Describe the applicant's solution to the sustainability of the project.*

Lewis & Clark County GIS has a staff committed to maintenance of all enterprise GIS data. The COS feature will be added to our list of data that is regularly updated. Our current policy is to update the data as legal documents stating a change are filed. In the case of COS's, GIS staff would add/update the feature when the survey has been signed and filed with the Clerk & Recorder.

8. Project Measures (Required) - *Describe how you will measure project success.*

A complete and functional GIS feature class representing Certificate of Surveys located in Lewis & Clark County and the cities of Helena and East Helena will be the measure of successful implementation of the proposed project. Additional success would be the demonstration of linking to the Clerk & Recorder's scanned document database.

9. Detailed Budget (Required) - *Please provide a short written budget summary along with the table. If this is a multi-year request please copy the table below and label each table by fiscal year – FY2008, FY2009, etc.*

Based on preliminary budget figures supplied by GIS consultants in the Helena area, the range of costs for the COS project is $90,000 - $130,000. It is proposed that this project be contracted; the budget below reflects that intent. In addition to the requested $90,000 MLIA grant, the County is prepared to use $20,000 of its MLIA local funds to supplement the contract.

Category	Applicant Share (including in-kind)	MLIA Share	Other Share	Total
a. Personnel				
b. Fringe Benefits				
c. Travel				
d. Equipment				
e. Supplies				
f. Contractual		$90,000		$90,000
g. Other	$20,000 *			$20,000
Totals	$20,000	$90,000		$110,000

***** Lewis & Clark County local MLIA funds

10. Timeline of project (Required) - *Please submit on a separate page - not counted toward the 5 page limit. This can be in any format as long as it lists project milestones and completion dates for deliverables.*

Task Name	Start	Finish	Duration
Notification by DOA/ITSD of Grant Award	5/15/2007	5/15/2007	1 day
Identify feature class stakeholders, contact interested parties, and set time to meet and discuss feature attributes / needs	5/21/2007	6/1/2007	10 days - maybe less based on contact availablity
Meeting with interested parties to discuss feature attributes / needs	TBD	TBD	1 day
Write a detailed RFP/RFQ in order to select the best contractor to complete project	TBD	TBD	+/- 5 days
Advertise RFP/RFQ	TBD	TBD	+/- 30 days
Select contractor			1 day
Meet with contractor and firm up contract needs and requirements			1 day
Contractor begins work as outlined in grant project request	mid-August	TBD	265 days - or until funding is used
Monthly meeting with contractor during contract period for updates, product review	TBD	TBD	12-13 days
Interim Project Report	1/15/2008	1/15/2008	1 day
Final Project Report	9/1/2008	9/1/2008	1 day

11. Statements of support (Optional) (not counted toward 5 page limit)

12. Authorized Signature

Authorizing Statement
I hereby certify that the information and all statements in this application are true, complete and accurate to the best of my knowledge and that the project or activity complies with all applicable state, local and federal laws and regulations.
I further certify that this project will comply with applicable statutory and regulatory standards.
I further certify that I am (we are) authorized to enter into a binding agreement with the Montana Department of Administration to obtain a grant if this application receives approval.

_____ **Date**_____

Michael A. Murray, Chairman
Board of County Commissioners

Signature and Title of Authorized Representative(s) of Public Entity Applicant